After reaching the Base Hospital, from which the patient need not be evacuated until his condition warranted, the treatment carried out was essentially the same in all cases, being almost entirely symptomatic except for operations for empyema.

SUMMARY. It is desired to emphasize certain simple bedside standards of prognosis because the other data seem to be less significant as to the outcome in a given case.

The fatal type of pneumonia occurring in this series as seen at autopsy was that to which the name hemorrhagic bronchopneumonia or hemorrhagic pneumonitis has been applied.

This type could usually be recognized clinically as a confluent bronchopneumonia, bilateral, with evidence of considerable consolidation, yet the consolidation not of a frank lobar type. It was usually characterized by a respiratory rate of forty or over for a period of two days or more, and this rate was rarely seen in bronchopneumonia of other grades. Cyanosis was usually proportionate to the respiratory rate.

In lobar pneumonia a rapid respiratory rate was not so significant.

The roentgen ray was of great assistance in locating and defining small areas of pneumonia, in determining the presence or absence of fluid and other complications, but it was usually not essential to the diagnosis of the confluent type.

In conclusion, the data presented may be summarized in a very simple statement. Having recognized the existence of a bronchial type of pneumonia as distinguished from a lobar type, the question of prognosis seemed to be largely a matter of the density and extent of the pulmonary lesions.

My thanks are due Dr. Fred M. Hodges for the roentgen-ray studies and Dr. E. Guy Hopkins for the clinical laboratory data.[1]

THE TREATMENT OF ACUTE GONORRHEA IN FEMALES.

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IN the very beginning of this paper it is my desire to state that I have no new method of treatment to offer, I have not discovered a "sure cure" for gonorrhea and I have no criticism to make of the many methods of treatment now in vogue. However, a close relationship with undergraduate medical students for several years has

[1] The detailed clinical data and abstracts of the physical, roentgen-ray and postmortem findings of the cases forming the basis of this report were submitted for publication, but have been omitted because of lack of space.—ED.

brought to my attention that there is something lacking in the present teachings on the subject of acute gonorrhea, and as nearly as I can determine the lacking element is the failure on the part of medical schools and medical authors to tell the student exactly what to do and to show him how to do it. The student attends lectures and clinics by the score, but almost invariably the subjects considered are operative conditions and technic, and it is only in very rare instances that much time is spent in discussing local treatment. Even more important is the very small opportunity that is presented to the average student to see how local treatments are applied and to actually apply them himself. It has often been truthfully stated by students that they graduate from medical schools prepared to perform a hysterectomy while they do not know how to insert a speculum into the vagina. They add little to their knowledge, as a rule, during their service as interns, and, as a result, when they take up active practise they are very poorly qualified to treat the so-called non-operative gynecological cases. An attempt has been made to overcome this state of affairs in the gynecological department of the University of Pennsylvania Medical School by giving the students practical work in the dispensary for a period of ten weeks. The course has been greatly appreciated by practically all of the students who have taken it, but in order to make it a real benefit it has been necessary to limit the classes to a few men at a time, so that only about 10 per cent. of the students have an opportunity of taking the course.

To the student or practitioner who consults such an excellent monograph as that of Norris[1] there will be ample opportunity to obtain a complete *résumé* of all that we know about the treatment of gonorrhea, and one or two of the more recent text-books contain excellent articles on this subject; but the general tendency of authors has been to lightly skip over the acute stage of the disease and then dilate upon the chronic stage and its complications. This appears especially ludicrous in view of the fact that careful observation and treatment during the acute stage may frequently prevent the ravages of pelvic inflammatory disease. At this point I should like to mention the wrong impression that is held by the average practitioner, due, no doubt, to erroneous instruction during student days, namely, that gonorrhea in the female is an incurable disease. In large measure this view is probably the result of Noeggerath's dictum, "Once infected, always infected," but such a statement does not hold good so long as the infecting organism has not passed into the uterine canal above the internal os. It is a common experience for the gynecologist to cure cases of acute endocervicitis, and yet the physician in general practice is always skeptical about such a report. The object of this paper, therefore, is to encourage more

[1] Gonorrhea in Women, Philadelphia and London, 1913.

extensive instruction in the treatment of acute gonorrhea in the female, so that the practitioner may undertake the treatment of these cases with a cheerful optimism as to the outcome, even though he may not be successful in all cases. In describing the method of treatment that has given me the most satisfaction, I shall divide the subject into acute urethritis and acute endocervicitis, since these are the most common types of infection. Acute inflammation of the vulvovaginal glands will not be considered, as it is freely admitted that it is my belief that we are unable to cure this condition without extirpating the glands, and any cases of non-operative cure that have occurred are, to my mind, not the result of any special line of treatment.

Acute Urethritis. Acute urethritis, which is usually the first stage of acute gonorrhea, is best treated by absolute rest and no local treatment during the period of the acute purulent discharge. The average patient who suffers from this condition, however, cannot or will not remain in bed, so that we are obliged to treat them as ambulatory cases. At the dispensary of the University Hospital we give these patients two prescriptions, one for santal oil, which is taken in 10-minim doses, three times daily, and the other prescription is for a urinary sedative containing 5-minims of tincture of hyoscyamus and 10 grains of sodium bromide to 1 dram of the liquor of potassium citrate, which is taken every three hours. The patient is instructed to drink water freely and return in a week, at which time, if the acute inflammation persists, the treatment is continued in the same manner. In the course of two or three weeks most cases will show a marked improvement, as evidenced by the freedom from symptoms and the diminution or the disappearance of the urethral discharge. It is at this time and not until then that local treatment is instituted, and when the treatment is begun, the patient must be warned that freedom from symptoms does not mean freedom from disease, as there is a great temptation for the patient to discontinue treatment. We have tried many agents in the local treatment of urethritis, but have come back to the use of silver preparations, using either a 15 per cent. solution of silver nucleinate or a 5 per cent. solution of silver nitrate, which is applied to the entire length of the urethra by means of a small cotton swab on a nasal applicator. A word or two regarding details may not be amiss at this point, since close observance of the finer points in technic will determine the efficacy of the treatment.

The patient should urinate just before the treatment and then the urethra should be well dried by gently passing a dry wisp of cotton on an applicator into the urethra. This drying is important, because the power of any gonococcicidal agent is enormously enhanced by previous drying of the parts. The medicament is then absorbed on another cotton swab and the entire urethra is painted by means of a slow spiral movement of the applicator, which is continued until

the bladder is reached. The applicator is then withdrawn by the same spiral motion, *in the same direction*, so that the cotton is being tightened on the applicator instead of being loosened. Failure to observe this small point may result in the unpleasant accident of having the cotton caught by the internal sphincter and retained in the bladder. Although this is disconcerting to the physician it need cause no alarm, as the patient will not be aware of its presence, and, moreover, she will pass it at a subsequent urination. These treatments are given every two or three days until improvement in the local condition is noticed, and then the frequency of the treatments is gradually reduced until all signs have disappeared. At this time smears should be taken, and after three successive negative smears have been obtained a cure may be assumed.

ACUTE ENDOCERVICITIS. In considering the treatment of gonorrheal endocervicitis we should not expect quite as rapid improvement as can be obtained in the treatment of urethritis; nevertheless, by conscientious and continued treatment we shall be rewarded by results far above the expectations of the average practitioner. As soon as we have determined the presence of a gonorrheal discharge from the cervix, we order hot douches of 1 to 8000 potassium permanganate solution to be taken four or five times daily. We have found this solution to have the best cleansing effect in these cases, and if ordinary care is used, many of the objectionable features of permanganate can be obviated. We order it for our patients in the form of 1-grain tablets, which are dissolved just before use. As soon as the discharge is well under control, which ordinarily occurs in about two weeks, we begin to give the patient local treatments to the cervical canal. In applying any medicated solution to the cervical canal one of the most important points that must be observed is that the canal should be thoroughly cleansed and dried in order that the medication may come into actual contact with the infecting organisms which lie in the cervical glands. It is utterly impossible for any drug to accomplish this in the presence of a thick discharge, or even the usual cervical plug of mucus, which effectively protects the underlying organisms from the action of any antiseptic. Therefore, in order to get the best results, it has been our practice to expose the cervix by means of a bivalve speculum, wipe away the major portion of the discharge and then thoroughly spray the cervix with an alkaline solution, in order to dissolve the mucus. The cervix is again dried and then an applicator soaked in an alkaline solution (liquor antisepticus alkalinus) is passed into the canal as far as the internal os and moved to and fro, after which a dry cotton swab is passed into the canal and the thin discharge removed. This process is repeated several times until all of the mucus is removed and the canal is left clean and dry. We are then ready to apply our medication, which may be any one of the usual gonococcicides. Our own preference is for a 10 or 12.5 per cent. solution of silver nitrate, which is vigorously applied to the canal

as far as the internal os, and immediately afterward tincture of iodin is similarly applied. These two drugs form a fresh silver iodide in the cervical canal, as can be seen by the characteristic yellow color that is produced. Not infrequently the patient will complain of some lower abdominal cramps as soon as the tincture of iodin is applied. This is merely a uterine colic, due to the stimulation of the muscle produced by the iodin fumes, and need cause no alarm, as it will disappear in a minute or two. Following this application the cervix and cul-de-sac are thoroughly dried and the speculum withdrawn. Only in very exceptional cases is a tampon inserted.

The patient continues her douches at home and reports to the office for treatment two or three times a week for the first three weeks, after which time the condition is usually so improved that douches can be discontinued and the interval between treatments can be lengthened. When the discharge has lost all of its purulent character and has become scanty, smears should be taken, and after three negative smears, one of which should be taken just after a menstrual period, the patient may be discharged.

Such is the technic that has given us more than satisfactory results, but it is only by a careful observance of details that results will be obtained, and at times the successful execution of a treatment is a trying ordeal for the physician. Any practitioner who would undertake to treat these cases should bear in mind two important points: In the first place, any particular treatment takes time, especially in the beginning of the disease, when the discharge is profuse and it is practically impossible to follow this technic closely in less time than fifteen minutes, which is more time than many practitioners are accustomed to spend upon these cases. In the second place the treatment should be as free from pain as possible, because if the patient is not comfortable she will not remain quiet upon the table, it will be impossible to get good exposure of the parts, and without good exposure the treatment cannot be properly administered. This point is also of special importance in the beginning of the disease, when the vulva is so tender as a result of the irritating discharge that the slightest pressure causes pain, while the insertion of a speculum seems to be out of the question. In these cases I do not hesitate to use a local anesthetic, which is applied on a pledget of cotton to the vaginal outlet. By this means, together with a little encouragement to the patient, I have never had to abandon a treatment on account of pain; indeed, I have been successful in introducing a speculum in several cases after futile as well as painful attempts have been made by colleagues.

As was stated in the beginning of this paper, nothing new is presented in the field of therapeusis, but if the practitioner will follow the technic above outlined and follow it in detail, I feel sure that he will be rewarded by results that will change his opinion relative to the gloomy prognosis of this disease.